

US009510801B2

# (12) United States Patent

#### Kuwabara et al.

# (54) RADIOGRAPHIC IMAGING METHOD AND APPARATUS

(71) Applicant: FUJIFILM Corporation, Tokyo (JP)

(72) Inventors: Takao Kuwabara, Kanagawa-ken (JP);

Yasunori Ohta, Kanagawa-ken (JP); Yasuko Yahiro, Kanagawa-ken (JP)

(73) Assignee: FUJIFILM Corporation, Tokyo (JP)

(13) Thoughest Teorification, Tokyo (11)

Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

This patent is subject to a terminal dis-

claimer.

(21) Appl. No.: 14/951,845

(\*) Notice:

(22) Filed: Nov. 25, 2015

(65) Prior Publication Data

US 2016/0073996 A1 Mar. 17, 2016

### Related U.S. Application Data

(63) Continuation of application No. 13/973,082, filed on Aug. 22, 2013, now Pat. No. 9,226,724, which is a (Continued)

#### (30) Foreign Application Priority Data

(51) **Int. Cl.** 

**A61B 6/00** (2006.01) **A61B 6/02** (2006.01)

(Continued)

(52) U.S. Cl.

(Continued)

# (10) Patent No.: US 9,510,801 B2

(45) **Date of Patent:** 

\*Dec. 6, 2016

#### (58) Field of Classification Search

CPC ...... A61B 6/4233; A61B 6/467; A61B 6/548; A61B 6/542; H04N 5/232; H04N 3/155;

G01N 23/04

See application file for complete search history.

#### (56) References Cited

#### U.S. PATENT DOCUMENTS

5,594,772 A 1/1997 Toki et al. 9,226,724 B2\* 1/2016 Kuwabara ...... A61B 6/022 (Continued)

#### FOREIGN PATENT DOCUMENTS

JP 3-251232 A 11/1991 JP 2006-55633 A 3/2006 (Continued)

#### OTHER PUBLICATIONS

Chinese Office Action and Search Report dated Mar. 23, 2015, for Chinese Application No. 201280011759.9 with the English translation

(Continued)

Primary Examiner — Hoon Song (74) Attorney, Agent, or Firm — Birch, Stewart, Kolasch & Birch, LLP

## (57) ABSTRACT

In a case where a series of operations of an imaging sequence are continuously performed when an imaging switch is continuously in ON state, if the imaging switch is turned into OFF state only for a given period and the given period is not more than a predetermined threshold value, control is exerted such that part of the operations of the imaging sequence is continuously performed.

## 10 Claims, 6 Drawing Sheets

